WATERLINES

News affecting the management and use of Indiana's water resources

DIVISION OF WATER
INDIANA DEPARTMENT OF NATURAL RESOURCES
SUMMER 2003

SEVERE FLOODING RESULTS IN DISASTER DECLARATION AND TRIGGERS ADOPTION OF EMERGENCY RULE BY DNR

For many Indiana residents, the celebration that started on the 4th of July quickly ended when rains relentlessly poured down. The holiday weekend marked the beginning of one of the most difficult times in their lives. Rains that began that week resulted in flood levels not seen for decades in some areas while others experienced record floods.

Record floods occurred along Wildcat and Deer creeks, as well as the St. Marys and Iroquois rivers. Near-record flooding occurred along the Wabash River in Adams and Wells counties. The areas hardest hit were in Decatur, Delphi, Tippecanoe County, Kokomo, Fort Wayne, Alexandria, and Bluffton. At least four deaths were attributed to the flooding.

As a result of the significant flooding and damage, President Bush authorized assistance under a major disaster declaration. This declaration included 20 counties that were eligible for individual assistance and public assistance, 23 counties that were eligible for individual assistance alone, and two counties that were eligible for only public assistance.

Delphi, Indiana

The assistance, coordinated by the Federal Emergency Management Agency (FEMA) included grants to pay for individual assistance such as temporary housing, emergency home repairs, and other serious disaster-related expenses. Assistance in the form of low-interest loans from the Small Business Administration also was available to cover residential and business losses not fully compensated by insurance. Federal funds

Also in this issue

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("Severe Flooding..." continued from page 1)

were made available to State and local governments to pay 75 percent of eligible costs of restoring damaged public facilities for those counties eligible for public assistance.

According to figures released by FEMA, more than 15.5 million dollars in grants and low-interest disaster loans were approved to assist in the recovery in the month following the flood. According to FEMA records, 5,030 individuals had called to apply for assistance, 1,459 temporary rental assistance grants were approved, 2,476 emergency essential repair grants were approved, 988 other needs assistance grants were approved, and 248 Small Business Administration (SBA) low-interest disaster loan applications have been approved. These figures will likely increase as the deadline for applying for assistance has not passed and many SBA disaster loan applications are currently in process.

Decatur, Indiana

Many of the flood victims were able to clean up, repair their homes, and go back to life nearly as it was prior to the flood. Some homes sustained a great deal of damage, and the owners were required to elevate their homes to protect them from future flood damage. And then there were the flood victims with homes located in the floodway, whose homes were structurally damaged. They found that life certainly would not be the same since Indiana statutes do not permit reconstruction of their homes.

Flood damaged materials have been removed from this home in Noblesville, Indiana

The floodway of a stream is an extremely hazardous area. However, many homes existed in these areas before the hazard was identified. For several years, the construction of new homes has not been permitted in Indiana's floodways *(excludes the Ohio River floodway; see related article in this issue)* in accordance with the Flood Control Act found in Indiana Code (IC 14-28-1). Existing homes in the floodway are also subject to the provisions of the Flood Control Act.

According to Indiana Code (IC 14-28-1-20), a homeowner may not reconstruct a residence in a floodway. Prior to the July flooding, there was no definition within Indiana's statutes or rules as to what *"reconstruction"* entailed. Given the large number of flood-damaged residences located in the floodway areas during this flood event, the Department of Natural Resources (DNR) issued an emergency rule to clarify the types of repairs that could be allowed.

The DNR rule says: "reconstruction for purposes of IC 14-28-1-20, IC 14-28-1-24, and IC 14-28-1-25, means an activity that rehabilitates or restores the structural elements of the building, including, but not limited to, replacing walls, restoring the foundation, replacing floors, or conducting work on any elements necessary to support the structure. The term does not include activities such as

painting, replacing floor coverings, replacing doors, replacing windows or cleaning."

State officials and Federal officials continue to work to make funds available to communities to acquire the affected homes in the floodway that cannot be reconstructed. Homeowners are being assisted with temporary housing while damaged homes are being evaluated. "The best thing for everyone will be to find the funding to purchase these homes in the floodway and allow these folks to relocate to a safer area," SEMA Director Patrick R. Ralston said.

FEMA RELEASES FOURTH IN SERIES OF MITIGATION PLANNING HOW-TOs

By Richard Roths, AICP FEMA Region V

The Federal Emergency Management Agency (FEMA) has released the fourth in a series of documents that provide guidance on the preparation of all-hazard mitigation plans. This book is titled ***Developing the Mitigation Plan, Identifying Mitigation Actions and Implementation Strategies (FEMA 386-3).***

Mitigation Planning is a collaborative process whereby hazards affecting a community are identified, vulnerability to hazards assessed, and consensus reached on how to minimize or eliminate the effects of these hazards. For years, disaster recovery was based on a disaster response driven system where the only thought was to get the communities back on their feet as soon as possible. That rationale led to ever-increasing costs for disaster relief to communities, states, and the Federal government as sites were damaged multiple times. After re-evaluating this strategy, Congress decided that FEMA should place more emphasis on the planning process to promote and support sustainable, disaster resistant communities. Toward this end, FEMA is working with State and local partners to be contributing players in moving communities to meet the challenges of reducing future damages through mitigation planning and the funding of various planning programs.

Developing the Mitigation Plan, Identifying Mitigation Actions and Implementation Strategies helps communities going through the process of:

- Developing mitigation goals and objectives
- Identifying and prioritizing mitigation actions
- Preparing an implementation strategy, and
- Documenting the mitigation planning process through the writing and reviewing of the plan.

The document also includes worksheets, where applicable, to help the reader through the process of identifying and prioritizing the mitigation actions.

Other documents in this series include:

- *Getting Started, Building Support for Mitigation Planning (FEMA 386-1)*
- *Understanding Your Risks, Identifying Hazards and Estimating Losses (FEMA 386-2)*
- *Integrating Human-Caused Hazards Into Mitigation Planning (FEMA 386-7).*

Five additional How-To Guides will be released in the future. Those documents will cover such topics as ensuring the success of the plan, benefit cost analysis, historical resources, multi-jurisdictional approaches, and securing resources.

To obtain copies of the How-To Guides, you can contact the FEMA Warehouse at 1-800-480-2520. All of the documents are available in hard copy, and several are available on disk. In addition, the documents are available on the Internet at http://www.fema.gov/fima/planresource.shtm.

Did you know?

For those who live in a floodplain, there is a 26% chance of experiencing a flood during the life of a 30-year mortgage, compared to a 4% chance of a fire.

CONFERENCE CORNER

The Indiana Association for Floodplain and Stormwater Management (INAFSM) will hold its 7th Annual Meeting and Conference September 10-12, 2003.

INAFSM will return to the newly renovated Fourwinds Resort on beautiful Lake Monroe near Bloomington, Indiana. This year's event promises to be an outstanding collection of people, topics and fun. The waters of Lake Monroe will provide the perfect setting for learning the latest on floodplain and stormwater management in Indiana. A record turnout for this year's event is expected, so be sure to block out the dates and look for more information about the event soon.

The Certified Floodplain Manager's (CFM) Exam will again be offered at the conference. Keep in mind that in order to take the exam, advance registration through the Association of State Floodplain Managers (ASFPM) is required. Information regarding the CFM program can be found on the ASFPM Web site at www.floods.org. Full INAFSM Conference attendance qualifies current CFMs for Continuing Education Credits (CECs). Please contact ASFPM by phone at 608-274-0696 for additional information.

Keep checking the INAFSM Web site at www.inafsm.org for the latest information on the conference. You can also contact INAFSM at 317-796-2356.

Indiana Association for Floodplain and Stormwater Management, Inc.
INAFSM

A YEAR OF CHANGE

Several law changes, which have an impact on various aspects of "water," became effective on July 1, 2003. The changes include fee increases, new dam inspection requirements, and provisions for the construction of residences in the floodway of the Ohio River.

PERMIT APPLICATION FEES

For the first time since the fees were established in the late 1970s, application fees for permits from the Department of Natural Resources Division of Water have been increased.

Projects that change the shoreline or alter the bed of a public freshwater lake are required to obtain a permit under the Lake Preservation Act (IC 14-26-2-9). The application fee for a permit subject to the Lake Preservation is now $100.

Structures, obstructions, fill, or excavation in the floodway area also require permits from the Department of Natural Resources Division of Water under the authority of the Flood Control Act (IC 14-28-1). Permit fees for construction in a floodway will depend upon the construction type and the location.

- Amendments to the Flood Control Act in 1997 set the permit fees for residential applications on/in a boundary river floodway (Ohio River floodway) at $10. This fee will remain the same.

("A Year of Change" continued from page 4)

- Fees for applications regarding substantially damaged residences in all other floodways will remain at $50.

- All other construction now requires an application fee of $200.

NEW RESIDENCES IN OHIO RIVER FLOODWAY

In 1997, the General Assembly amended the Flood Control Act in regard to placement and replacement of mobile homes, repair to residences, and reconstruction of residences in the floodway of the Ohio River. All of the activities allowed under the 1997 amendment require a permit from the Department of Natural Resources, Division of Water and must meet specific criteria for building construction.

The legislation passed in 2003 further changes the Flood Control Act (specifically IC 14-28-1-26.5) to allow for the construction of new residences in the Ohio River floodway. The statute adopts the National Flood Insurance Program regulations as the criteria for determining whether a person is allowed to construct a new residence in a floodway along the Ohio River, but specifies that the lowest floor of a new residence constructed in a floodway along the Ohio River must be at least two feet above the 100-year frequency flood elevation (also known as base flood elevation).

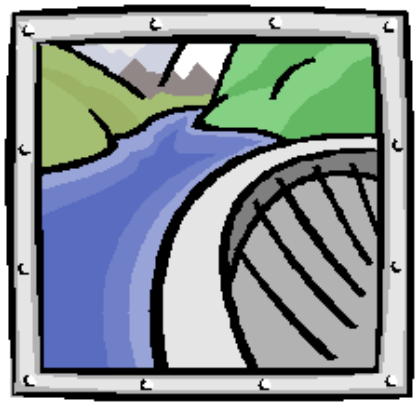
Key requirements of the National Flood Insurance Program regulations are:

- The structure must be adequately anchored to prevent flotation, collapse, or lateral movement.
- The lowest floor of the structure must be to or above the base flood elevation. (The Indiana statute requires lowest floor be at least two feet above the base flood elevation.)
- The structure must be constructed of material resistant to flood damage.
- The structure must be constructed by methods and practices that minimize flood damage.
- The structure must be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

This amendment became effective on July 1, 2003.

Applicants wishing to construct a residence in the Ohio River floodway must keep in mind that there may be other more restrictive local, State, or Federal regulations.

DAMS



There were substantial changes in the State dam safety law that will effect the management of dams. This is in addition to the new legislation enacted in 2002.

("A Year of Change" continued from page 5)

For many years, the Indiana Department of Natural Resources (IDNR) inspected dams as a service to the owners. Staff routinely reviewed the inspections and deficiencies with the owners and educated them, or their agents, on the principles of dam safety. Over the years, more dams were constructed and development downstream of these impoundments occurred. There are currently over 1,100 high, significant and low hazard dams within IDNR's jurisdiction.

In 2002, the General Assembly amended the Dam, Dikes, and Levees Regulation Act, IC 14-27-7, to address dikes and levees and enacted new legislation focused on dams, IC 14-27-7.5. Owners of high hazard dams are now required to have a licensed professional engineer inspect their dams and submit reports to the Department once every two years.

By statute, a high hazard dam is defined as "a structure the failure of which may cause the loss of life and serious damage to homes, industrial and commercial buildings, public utilities, major highways, or railroads." It is important to note that while a dam may now be rated significant or low, construction or placement of a house or other structures downstream of the dam could change the hazard classification to high, which will require the owner to hire a consultant to perform future inspections.

The 2002 amendment also extended the frequency of dam inspections from two years to three years for significant hazard dams, and from two years to five years for low hazard dams.

In 2003, the General Assembly amended the IC 14-27-7.5 to address fees for dam inspections on significant and low hazard dams. Effective July 1, 2003, the Department will charge $100 for the inspection of low hazard dams and $200 for the inspection of significant hazard dams. This fee represents a small portion of the total cost to the state to perform an inspection of a dam.

Dam owners have responsibility for the safety of downstream life and/or property. Inspections alone do not make a dam safe. Recommendations made in the inspection reports that require technical evaluation or modifications to the structure should be completed under the direction of a professional engineer.

Beyond the inspection of a dam, owners should observe, maintain, and keep the dam and related works in an appropriate state of repair and operating condition. It would be prudent for a dam owner to have developed in advance, a working relationship with the local emergency management personnel and an engineer to address emergencies. The timeliness and quality of their advice will likely be improved if they have prior knowledge of the technical aspects of the dam and its setting. ≈

PRECIPITATION REPORT FOR JANUARY THROUGH JUNE 2003

Early January 2003 was a little wet in some places in Indiana. Rain at the end of December and the very beginning of January caused lowland flooding along portions of the White and East Fork White rivers in southern Indiana during the early portion of January. Winter returned on the 10th and remained the rest of January. Light, fluffy snow would fall every few days depositing about an inch to possibly four inches in central and southern Indiana. Northern Indiana experienced colder and drier than normal conditions, with precipitation totals being about 0.9 inches below normal.

February was a cold and snowy month for much of Indiana. Snowfall totals ranged from four inches in west central Indiana to nearly 28 inches in southeast Indiana. An unusual phenomenon occurred during the night of the 11th across central and southern Indiana. With temperatures in the lower teens, a light and fluffy snow of three to six inches fell in this area. Steady winds ahead of the strong cold front allowed the temperatures to rise

("Precipitation Report" continued from page 6)

from the low teens at the time of the snow to the low and middle 30s during the late evening hours. As the cold front approached, winds increased. This caused snow rollers to develop during the night. The high winds and right texture of the snow caused widespread formation of the snow rollers. Snow rollers were especially prevalent near the crests of hills and well-trimmed or smooth areas like golf courses, and pastures. This was the first significant Indiana snow roller event in more than 50 years.

Snow rollers

Winter ended quickly during March. Snowy weather carried over into the first week of March, with generally light rainfall and warm temperatures after the first week. Monthly totals of melted precipitation ranged from less than two inches in portions of north central Indiana to nearly four inches in central portions of Indiana. For most areas, this was the first month with below normal snowfall since November. However, the seasonal snowfall total of 50 inches at Indianapolis was the fourth highest of record.

Rainfall was slightly below normal for the month of April. Monthly rainfall totals ranged from around two inches in portions of north central Indiana to nearly six inches in south central and southeast portions of Indiana. After a mild and somewhat dry April, May began on a very wet note. At least five rainfall events occurred during the first two weeks. Rainfall early in May caused significant rises on rivers and streams in northern Indiana, which caused some minor short-term flooding.

June rainfall totals ranged from one and one-half inches to over eight inches. The wettest areas were in southern Indiana and the driest in northern Indiana. Most of the rain fell during the first half of the month. These rain events combined to produce bankfull to slightly above flood stage conditions on the Wabash River in western Indiana, and on the East Fork White, Muscatatuck and White Rivers in southern Indiana. At the end of June, most stream levels were normal and much of Indiana was somewhat on the dry side.

KEY: ACTUAL (INCHES) / NORMAL (INCHES)

Locations	January	February	March	April	May	June	Totals 2003
CHICAGO IL	0.36	0.19	1.82	4.33	5.29	1.46	13.45
	1.75	1.63	2.65	3.68	3.38	3.63	16.72
SOUTH BEND	1.21	0.91	1.52	3.30	6.34	1.16	14.44
IN	2.27	1.98	2.89	3.62	3.50	4.19	18.45
FORT WAYNE	1.30	1.39	2.43	2.35	6.94	3.66	18.07
IN	2.05	1.94	2.86	3.54	3.75	3.28	18.18
INDIANAPOLIS	1.27	3.45	3.72	2.55	6.39	2.36	19.74
IN	2.48	2.41	3.44	3.61	4.36	4.13	20.43
EVANSVILLE	1.10	4.92	2.60	3.93	6.51	4.50	23.56
IN	2.91	3.10	4.29	4.48	5.01	4.10	23.89
LOUISVILLE	1.13	4.12	2.04	5.99	6.42	3.22	22.92
KY	3.28	3.25	4.41	3.91	4.88	3.76	23.49
CINCINNATI	1.66	3.60	2.53	1.91	7.29	2.75	19.74
OH	2.92	2.75	3.90	3.96	4.59	4.42	22.54

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